



In this special issue the initiatives promoted by the H2CU Center from its establishment to present are described.

This contribution has been prepared as part of the "2013 - Year of the Italian Culture in the US."



H2CU Center — **Past, Present, and Future** Special Issue on H2CU Mag

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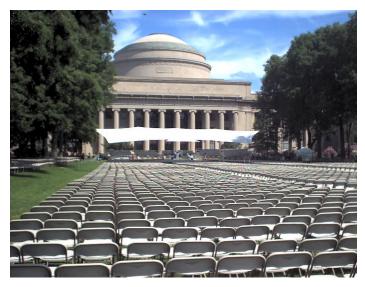
Section 1: The H2CU Center

The Centro Interuniversitario di Formazione Internazionale (H2CU - Honors Center of Italian Universities) was established at Sapienza University of Rome, on June 1, 2004 and is composed of **21** Italian Universities and **3** Institutes of the Italian CNR-National Research Council, "Department of Earth System Science and Environment Technology":

- Politecnico di Bari,
- Università degli Studi del Sannio di Benevento,
- Università degli Studi di Brescia,
- Università degli Studi di Bologna,
- Università degli Studi di Cassino (now Universita' degli Studi di Cassino e del Lazio Meridionale),
- Università degli Studi di Catania,
- Università degli Studi di "G. D'Annunzio" di Chieti,
- Università degli Studi di Genova,
- Università degli Studi di Firenze,
- Università degli Studi del Molise,
- Università degli Studi di Napoli Federico II,
- Università degli Studi di Napoli "Parthenope",
- Università degli Studi di Pavia,
- Università degli Studi di Perugia,
- Università per Stranieri di Perugia,
- Università degli Studi Mediterranea di Reggio Calabria,
- Sapienza Università di Roma,
- Università degli Studi di Roma "Tor Vergata",
- Università degli Studi di Salerno,
- Università degli Studi dell'Insubria,
- Università degli Studi della Tuscia di Viterbo,
- IRPI-CNR Istituto di Ricerca per la Protezione Idrogeologica,
- IBAF-CNR Istituto di Biologia Agroambientale e Forestale,
- IAMC-CNR Istituto per l'Ambiente Marino Costiero.

The Center promotes a variety of international programs involving the three levels of the curriculum of Italian student in collaboration with prestigious American Universities: MIT- Massachusetts Institute of Technology (Cambridge/Boston), NYU-New York University (New York), PACE University (New York), Columbia University (New York), Florida International University (Miami) and Georgia Institute of Technology (Atlanta).

Since 2008, the H2CU Center operates a set of facilities in New York - Manhattan to accommodate approximately 40 guests per term.



Commencement at MIT.



To date, about **250** students have participated in academic and scientific programs sponsored by the H2CU Center and about **140** of these have earned the US Master of Science Degree.













H2CU students during the Commencement at Columbia University, PACE University, NYU-Poly and MIT.



Section 2: the Origin

The H2CU project was created with the intention of establishing a Center of excellence for organizing international academic programs that can issue qualifications recognized in Italy and the United States.

Over the years, the need of establishing in the United States a structure similar to the prestigious Italian colleges was reached. This College was designed to host Faculty, researchers and students working at US institutions.

The recent reform of the Italian university system allows students to easily continue their education at the international level and to acquire a degree abroad, with no bureaucratic or administrative difficulties. Cultural exchange at the international level in the field of research should now be considered a necessity. Projects promoted with the objective to internationalize the research have been innumerable. The multiplication of these exchanges is so vast that it is difficult to establish a record of formal and informal activities that have brought doctoral students, postdocs, researchers and Faculty to other countries. The aim of the H2CU Center is to optimize this potential for Italian students and researchers. Speaking of origins, we can say that the project is based on two positive experiences of university collaboration: the first of which was an agreement signed in 1992 between the University of

Perugia and the Polytechnic University (now NYU-Poly), which allowed students to obtain a joint degree of Laurea - Master of Science.

The second initiative was the Memorandum of Understanding between the CNR (Italian National Research Council) and MIT (Massachusetts Institute of Technology) active from 1994 to 2004 and focused on climate change and hydrological disasters.

This agreement enabled many young Italian researchers to stay at MIT for a minimum of six months, where they shared research projects with distinguished Faculty.



Antonello Masia during the signature ceremony for Italy-USA Agreements of Collaborations.



Rafael L. Bras (MIT now Georgia Tech) and Dara Entekhabi (MIT).



Victor Goldsmith, Pace University, and Andrew Reynolds, Scientific Attache of United State Embassy, during the Second Annual Meeting in Comparative Urban Projects, between Sapienza Universty of Rome and Hunter College.



AGREEMENT OF COLLABORATION BETWEEN POLYTECHNIC UNIVERSITY(USA) AND UNIVERSITA DEGLI STUDI DI PERUGIA (ITALIA)

These guidelines are established for programs under which the Polytechnic University and the Universita degli Studi di Perugia will collaborate in teaching, research, studies and other academic activities in fields of mutual interest, thus encouraging the exchange of different experiences and points of view.

The details of these activities will be established through agreements between programs and individuals of the two Universities after consultations, if appropriate, to ensure compliance with the regulations of the Universities and the laws of their respective countries.

The Universities further agree to the following:

- Faculty members, students, and other individuals associated with a University may visit the other institution for teaching, research, studies, or consultations.
- 2. Each University will pay the salary and benefits of its regular faculty members who work abroad for short periods of time during academic year periods when they would normally serve at their institutions. All other arrangements for payments of honoraria, travel and living expenses will be established by mutual consent of the affected programs and individuals.
- The host University will place at the disposal of the guest faculty members and other associated individuals, the resources to carry out the activities agreed upon.
- 4. All arrangements concerning the exchanges of faculty members, students, and other associated individuals will be agreed to and approved if necessary, in writing, in advance of the departure of such persons from their home institutions.

George Bugliarello, President

Date] whe 2 1992

ianoarlo Dozza, Rector niversita degli Studi di Perugia

Agreement of Collaboration between Polytechnic University, and Universita` degli Studi di Perugia, signed in 1992 between George Bugliarello, President of Polytechnic University and Giancarlo Dozza, President of University of Perugia.

George Bugliarello, photo from http://www.poly.edu/bugliarello-symposium/george-bugliarello



MEMORANDUM OF UNDERSTANDING

BETWEEN THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY AND
THE CONSIGLIO NAZIONALE DELLE RICERCHE OF THE ITALIAN REPUBLIC

COOPERATION IN CLIMATE CHANGE AND HYDROGEOLOGICAL DISASTERS

Massachusetts Institute of Technology (MIT) and Consiglio Nazionale delle Ricerche (CNR) in order to pursue cooperation in the study of climate change and hydrogeological disasters, with emphasis in Mediterranean regions.

ARTICLE

Objectives

This document identifies general areas for cooperative the CNR related to climate changes and hydrogeologic in Mediterranean regions. Hydrologic hazards such a avalanches are, of all the natural hazards, t damage-reduction techniques. Studies to identify, unitigate them can drastically reduce damages.

Recognizing the importance of these hydrologic hazar Nazionale delle Ricerche of the Italian Republic (herr "Parties") agree to consider bilateral investigation hydrogeological disasters, with particular interest on N

This agreement formalizes the educational and reserve developed over the past six years. The initial efforts v Change and Hydrological Disasters. The MIT Center f and the Ralph M. Parsons Laboratory (Department o Engineering) have significant on-going activity in this institutional links.



ARTICLE IV

Framework of Cooperation

In the initial three-year agreement, the program would be co-directed by Professors Lucio Ubertini and Rafael L. Bras, representing CNR and MIT interests, respectively. An advisory committee consisting of the program codirectors and four other researchers (two from MIT and two from Italy) will help establish directions and policy.

ARTICLE V

Funding

The Parties agree that exchanges and other cooperative activities should be conducted on the basis of equality, reciprocity, and mutual benefit.

The two parties will work together to identify sources of funding to support the research agenda. Sponsors may come from government and industry sectors and private individuals. The goal is to establish significant and secure longterm support of the activity.

ARTICLE VI

Entry into Force and Termination

This agreement shall enter into force on the 1st of January 1994 and will last for three (3) years. It may be modified or extended by mutual agreement in writing, and may be terminated at any time by either Party upon ninety (90) days written notice to the other Party.

Done in duplicate in English, each copy being equally authentic.

Massachusetts Institute of Technology

Consiglio Nazionale delle Ricerche

Mark S. Wrighton, Provost

Enrico Garaci, President

Cambridge, Foloron 18,1994

Rome, 23 teceuson 1993

Memorandum of Understanding between the MIT and the CNR for the "Cooperation in climate change and hydrological disasters" signed in 1993—1994 by Mark S. Wrighton, Provost of Massachusetts Institute of Technology and Enrico Garaci, President of CNR-Consiglio Nazionale delle Ricerche.

Ø one





Giuseppe D'Ascenzo, former President of Sapienza University of Rome, with Giovanni Cannata, President of University of Molise.



Signature for the purchases of 15 apartments in Battery Park City, Renato Guarini, former President of Sapienza University of Rome, and the Lawyer Bruno Cilio.

The main dates that refer to the formation of the H2CU Center can be summarized as follows:

- July 15, 2002, the first meeting of Faculty of Italian Universities and American Universities (including MIT prof. Rafael Bras) was held with the aim of developing a project of international collaboration based on already successful experiences of CNR-MIT and the University of Perugia-Polytechnic University;
- July 24, 2003, at the presence of Dr. Antonello Masia, General Director of the Italian Ministry of Education, the Presidents of 14 Italian Universities signed four Italian bilateral Partnership Agreements with four American universities (Columbia, MIT, Polytechnic University, PACE);
- March 30, 2004, under the leadership of Dr. Antonello Masia, it was considered appropriate to create an Inter-University Center that would coordinate the Universities involved in the bilateral cooperation;
- After several preparatory meetings, the Board of Directors of Sapienza University of Rome approved the creation of The "Centro Interuniversitario di Formazione Internazionale" H2CU, on June 1, 2004;
- On October 12, 2007, the agreement of collaboration between the H2CU Center, the University of Tuscia and PACE University was signed to establish the first Dual Degree graduate program in "Environmental Science for Large Urban Areas";
- On September 2008, the contract for the purchase of 15 apartments in Battery Park City, Manhattan was signed by 6 Italian Universities, part of the H2CU Center (Section 4: The College).



Section 3: The Mission

The H2CU Center promotes and organizes a variety of international academic and scientific programs addressing all the three levels of the university curriculum of Italian students. The Center's programs are aimed at students and Faculty and cover all the subject areas. Its main purpose is to promote and encourage cultural exchange between Italian and American Academia at all levels, from first level and Master degrees and up to Doctoral and Post-Doctoral programs. The activities promoted are of various kinds: from a short period of study to pursue research for the thesis of the first level degree to doctoral programs in co-supervision. Each exchange has the involvement of the student and requires the active participation of the Italian and American Faculty. The main initiative (presently well established in all the American universities) is the second level of education and consists of a Dual Degree Program, Laurea Magistrale/ Master of Science.

The following describes the types of programs.

Periods of Study and Research

They are aimed at students of first, second and third level who wish to undertake part of their thesis or doctoral degree at an American university that is a partner of the H2CU Center. Young researchers can also benefit from this program during their post-doctoral training. The periods of activity usually have duration of 3-6 months. The H2CU Center coordinates, supports and guides students logistically and, when necessary, assists the Faculty in the planning of the study period.

Short Academic Programs

The short academic programs are aimed at students of the second level and require the completion of certain courses with credits' acquisition at American or Italian Universities. These programs can be structured according to bilateral agreements or developed at the individual student level. The H2CU Center, besides logistically supporting students who take part in the initiative, assists students and Faculty in the program planning.

DIE LI CALINA DIE LI

Students from University of Cassino during the Commencement at NYU-Poly, Radio City Music Hall.

Joint Academic Programs

Joint academic programs represent the main initiative of the Center. The purpose is to allow a students to pursue US Master of Science Degrees during the last year of the Italian Laurea Magistrale. Credits earned in the US University during the period abroad are transferred in Italy. Thus students are granted two degrees: the US Master of Science and the Italian Laurea Magistrale. The H2CU Center has developed several "Dual Degree" programs. In this context, the international tutorial trail is determined a priori by the partner Universities and it requires that the first year of the second level degree is spent in

Italy and the second year at the American University.



At the end of the program, students acquire two degrees. The initiative is bilateral so that also American students can participate. The students can find all the necessary information regarding the "Dual Degree" programs in the graduate catalogue of the participating Universities. Bureaucratic and administrative procedures (registration procedures, academic regulations, equivalence between exams, credit recognition) are also found therein. The H2CU Center offers support and guidance to students and Faculty interested in developing new

programs. The design and implementation of "Dual Degree" programs are particularly complex and therefore the active programs are limited to some specific disciplines. In order to extend this opportunity to other disciplines, Center promotes "Individual Double Degree" programs. In this case, the curriculum must be organized by the student to compensate for the absence of general agreements between the Universities. The Center guides the student through the process of organizing and preparing the requisite documentation and he/she

These programs are developed ad-hoc for each students under the regulations of both Universities. Notably, they require intensive collaboration between the two Faculty involved in the program. The Center supports students interested in this program in all its phases.

To date, the H2CU Center has developed the following academic and research programs:



Short Course "GIS Terrain Analysis for Hydro-geomorphic applications", Polytechnic Institute of New York University, New York, USA, 2008;

can receive further assistance by the coordinators and staff of the graduate programs.

Dual PhD Programs

The intense collaboration between Italian and American universities under H2CU leadership has fostered intellectual rewarding interactions between Professors that have blossom in to Doctoral Degrees in co-supervision. This program requires that the student performs the research at both Universities involved in the program. The student is advised by two supervisors, one American and one Italian. At the end of the program, the student earns both the Italian and the American PhD.

Short Academic Programs

- Columbia University Sapienza University of Rome:
 "Graduate student exchange program in Law";
- Columbia Medical School and School of Medicine and Dentistry, Sapienza University of Rome - exchange program for undergraduate students;
- Columbia University H2CU Center: "Advanced Program of Ancient History and Art (APAHA)";
- PACE University H2CU Center: "Rome Ethernal City";
- PACE University Sapienza University of Rome: "Program in Biomedical Engineering".



Joint Academic Programs (Dual Degree)

- PACE University University of Tuscia,
 "Environmental Science for Large Urban Areas";
- NYU-Poly University of Cassino and Southern Lazio (UNICLAM), "Master of Science Degree in Civil Engineering";
- NYU-Poly University of Naples "Parthenope", "Master of Science Degree in Structural and Geotechnical Engineering";
- NYU-Poly University of Naples "Parthenope", "Master of Science Degree in Electrical Engineering";
- NYU-Poly University of Naples "Parthenope", "Master of Science Degree in Telecommunication Network";
- NYU-Poly Polytechnic of Bari, "Master of Science Degree in Manufacturing Engineering";
- NYU-Poly Polytechnic of Bari, "Master of Science Degree in Mechanical Engineering";
- NYU-Poly Sapienza University of Rome, "Master of Science Degree in Automazione/Dynamic systems and controls";
- NYU-Poly Sapienza University of Rome "Master of Science Degree in Industrial Production / Manufacturing and Industrial Engineering";
- Columbia University University of Bologna, "Master of Science Degree in Civil Engineering".

Dual PhD programs

- NYU-Poly Sapienza University of Rome, Dual PhD in "Hydraulic Engineering – Mechanical Engineering";
- NYU-Poly Polytechnic of Bari, Dual PhD in "Mechanical Engineering - Mechanical and Management Engineering".

While this long list offers evidence for the continuous efforts of H2CU Faculty and students to develop international programs, the portfolio is always growing. In fact, students and Faculty, can plan **individual academic or scientific projects** in any discipline in any University of the H2CU Center.



Section 4: The College

The "College Italia" project was born with the main goal of creating a structure that welcomes Italian students, researchers and Faculty who temporarily attend Universities in NYC. As previously mentioned Italian researchers have always had the possibility of studying abroad and the recent reform of the Italian university system allows students to easily integrate their education with

an international component, minimizing bureaucratic or administrative difficulties. On the other hand this experience is often linked to difficulties of various kinds; in fact, the financial commitment of research institutions is almost never sufficient to fully meet the needs faced by the researcher or the student. Moreover, attending American Universities involves a number of issues extraneous to the study or research: in fact from the administrative point of view we must not underestimate the procedures for obtaining a visa, a medical insurance, and the payment of fees. From the academic point of view, the transfer of credits involves a significant commitment by both the student and the Board members who supervise the Laurea

Magistrale. Usually students face difficulties despite the availability of the host university, as it is not easy to find affordable accommodation in reference to costs and distances from the workplace. This issue had previously emerged from the experience of students and Faculty from CNR who worked at MIT. In Boston, Italian students were in fact able to rely on the Italian Dante Alighieri Association for reference and support. Therefore, the "College Italia" was created with the aim of establishing an effective aid for students, researchers and Faculty. The idea of the College was conceived to optimize the fruitful cooperation and the activities undertaken in the last decade and to constitute a starting point for an excellent educational experience in the US that would be in a position to

issue certificates of study recognized both in Italy and the US. The College Italia, born in 2008 (the first students were hosted in January 2009), was equipped with appropriate means and facilities which have contributed to facilitate the study and research of its guests, students and researchers. "College Italia" is located at 225 Rector Place in Battery Park City, Lower Manhattan adjacent to Wall Street, and not far from the main partner Universities, allowing students to easily access the Uni-



Closing signature for the 15 apartments in September 2008 (from right to left) Rado Varkola, Salvatore Grimaldi, Lucio Ubertini Director of H2CU Center, Carlo Musto D'Amore General Director of Sapienza University of Rome, and Bruno Cilio, Cilio & Partners, P.C..

versities and work places. The first part of the project was completed in September 2008, in fact 15 apartments were purchased. The facility can accommodate students and Faculty involved in international academic activities with Universities in NYC. The bureaucratic and administrative process for the implementation of this first phase of the project began in 2005 when the H2CU Center and 6 Italian Universities (Polytechnic of Bari, University of Brescia, University of Cassino and Southern Lazio, University of Molise, University of Perugia, and Sapienza University of Rome) declared their commitment to the project and agreed to cooperate financially.



Also, the Ministerial Decree n. 139 of 24.05.2005, communicated with prot. 1763 of 12.02.2005, allocated funds to the 6 Universities who were partners of H2CU and joined the project "College Italia". Those funds were aimed at acquiring a residential facility in New York City to welcome Italian students, researchers, and Faculty. On February 12, 2007 the 6 Universities signed a Memorandum of Understanding that identified a procedure for the acquisition of a property in NYC. In the protocol signed by the Universities it was also provided a rental period that would start in January 2008 and that would allow the start of educational and scientific activities. Preliminary agreements with PACE University and the legal office Cilio & Partners PC ensured a logistical and bureaucratic support for the project.

The purchase process was completed by the 6 H2CU Universities after complex bureaucratic and administrative process, and organizational activities summarized by the following items:

- Signature of Memorandum of Understanding;
- Signature of the resolutions of the Board of Directors of the 6 universities;
- Fairness opinion of the Italian Agency of the territory;
- Application for Loan disbursement;
- Signature of the preliminary contract;
- Signature of the finalized contract;
- Delivery of the property;
- Internal design and furniture purchasing;
- · Definition and sharing of management regulations;
- Definition and sharing of the rules of access.

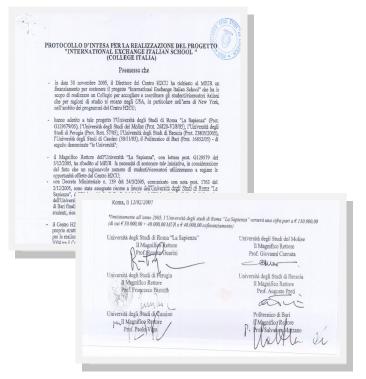


Carlo Musto D'Amore, General Director of Sapienza University of Rome, Bruno Cilio, Cilio & Partners, P.C., Renato Guarini, former Director of Sapienza University of Rome, and Lucio Ubertini, Director of H2CU Center during the closing signature for the 15 apartments in New York City September 2008.



This intense bureaucratic activity led to the purchase of 15 apartments, of which 12 are one-bedroom and 3 are studios, to simultaneously host approximately 40 guests per term.

After four years of operation, approximately 250 guests, including students participating in various H2CU programs, young researchers and Faculty have taken advantage of the facilities of the College Italia. Access to the College is regulated by guidelines approved by the 6 owning Universities; the facility can be used during the entire year for three terms Fall, Spring, and Summer. The students or professors willing to take advantage of the accommodation should send the application to their home University. The contact list of professors for the application can be found on the H2CU website www.h2cu.com. In addition to the housing application, the applicant must enclose a letter of recommendation from the advisor for the Italian Institution in which they describe the activities planned for the period of stay in New York and a letter of invitation by the advisor from the US institution in which they declare the availability and willingness to accept the applicant.



"Protocollo di Intesa" for the project "International Exchange Italia School" (College Italia) signed by 6 universities.

The priority is given to students who are involved in a double degree program, followed by young researchers and students working on their thesis and finally Faculty engaged in internationalization activities. Following the acceptance of the application, access to the College is coordinated by the H2CU Center in New York that governs the logistic and the correct stay at the College. As described earlier, the acquisition of these facilities in Battery Park is the first phase of the project College Italia; in fact the next step would be the acquisition of an independent space aimed to host Italian academic activities and the H2CU Center bureaucratic and administrative offices integrated in the Academia.



Map of Lower Manhattan with the location of 225 Rector Place.















Overview of College Italia at 225 Rector Place (www.225rector.com/): building entrance, lounge, hall, gym, and the apartments internal layout, and first group of guests at the College Italia, Spring 2009.





Renato Guarini, former President of Sapienza University of Roma, Lucio Ubertini, Director of H2CU Center, Salvatore Grimaldi and Renato Miracco, former Director of the Italian Cultural Institute during the presentation of the College Italia at the Italian Cultural Institute in New York, September 2008.



Renato Guarini, former President of Sapienza University of Roma, and Francesco Maria Talo`, former Consul General in NYC during the presentation of College Italia at the Italian Cultural Institute in New York, September 2008.



Renato Guarini, former President of Sapienza University of Roma, Lucio Ubertini, Director of H2CU Center, Maurizio Porfiri, Lawyer Bruno Cilio, Carlo Musto D'Amore, General Director of Sapienza University of Rome, and former H2CU students during the presentation of the College Italia at the Italian Cultural Institute in New York, September 2008.



Section 5: H2CU in New York

While the H2CU Center was born from an intense and long-lasting collaboration with MIT in Boston, the activities have recently expanded in New York City thanks also to the presence of College Italia.

The main partners are: Columbia University, NYU-Poly, PACE University.

Additional collaboration have also been established with other Universities (Hunter College, Fortdham University, Mount Sinai School of Medicine, CUNY, Memorial Sloan Kettering Cancer Center) and for profit or no-profit organizations (Funaro & co. PCs, Deutch Bank, Morgan, United Nations, Greenpeace, and others).

The following describes the activities developed with the three main partners including the joint academic programs.

Columbia University

During the years many academic programs and research in various disciplines have been established with Columbia University. In the following, the main program activities are described.

"Periods of Study and Research" at Columbia

Many students have done part of their degree thesis and / or their doctoral dissertation at Columbia University.

The most active collaborations have been developed with the following departments:

- Department of Civil Engineering & Engineering Mechanics, with contributions from, among others,
 Prof. Raimondo Betti and Prof. Renè Testa;
- Department of Earth and Environmental Engineering, with the support of Prof. Upmanu Lall;
- Department of Pathology and Cell Biology, with the help of Prof. Ottavio Arancio.

Summer courses with large participation from Italian, American and international students have also been organized:

- "GIS Terrain Analysis for Hydro-geomorphic applications", organized by Prof. Salvatore Grimaldi, 2007
- "Copula Function: Theory and Practice", organized by Prof. Salvatore Grimaldi, 2009
- "2nd International Summer School & Conference on Sustainable Strategies and Operations", organized by Dr. Paolo Taticchi, 2010.

As part of the research collaboration an agreement was signed between Sapienza University of Rome, Columbia University, University of Tuscia, CNR-National Research Council and Russian Academy for the study of climate change and it was recently presented at the workshop "Climate changes: flood / drought dynamics" held in Terni on May 18th, 2012. As part of the research periods, collaborations between Faculty and the Italian Academy for Advances Studies in America, directed by Prof. David Freedberg and assisted by Dr. Barbara Faedda were established. To date, three members of the H2CU Center have been awarded the prestigious fellowship by the Italian Academy to continue research at



Columbia University (Marco Savoia, University of Bologna and Francesco Cioffi, Sapienza University of Rome, and Maura Imbimbo, University of Cassino and Southern Lazio, she was Fulbright fellow at Columbia in 2012).

"Short Academic Programs" at Columbia

With Columbia University three major initiatives are presently active.

Columbia Law School and Sapienza University of Rome - exchange program for graduate students.

Exchange program for graduate students between the Schools of Laws of Sapienza University of Rome and Columbia University. In March 2010, the Presidents of the two Universities signed an agreement for an annual exchange of 3-4 students between the two Universities. Stu-

dents of Sapienza spend a period of six months to attend courses and conduct research for the duration of the Fall Term (August 16 to December 31). To date 7 students (3 in 2011 and 4 in 2012) participated in the exchange program successfully completing all the exams required. Students enrolled in the fourth or fifth year of study can participate in this program. They are selected according to their resume, a written test, an oral test and verification of knowledge of the English language by the committee responsible for the selection. The students must attend the Legal Methods course and then can choose to enrich their curriculum with other courses, for a total of 30 CFU credits. All decisions are taken in agreement with the Faculty of Sapienza, and then approved by the Faculty Council. Therefore students have the opportunity to acquire specific skills, particularly in the areas of comparative law, international law and commercial law. Notably this qualifies them for the exercise of the legal profession and the international activities within private companies. Students are only reguired to pay the normal registration fee at the University of origin and should not bear any additional costs, except for the costs of transport, housing (when not hosted by the College Italia) and for the purchase of textbooks. Sapienza University offers financial assistance to the students.



David Freedberg, Director of the Italian Academy for Advance Studies in American at Columbia University, during a H2CU Conference in 2004 at the Italian Academy.

Also, a cultural and scientific cooperation has been established, covering different areas of administrative law, commercial, banking and international studies. collaboration takes place through the exchange of Faculty and scholars, through participation in research programs, meetings, seminars, courses and publications. During the 2011/2012 academic year, Peter Strauss, a Professor of Regulatory and Administrative State and Constitutional Law, was the guest of the School of Law of Sapienza, where he gave a series of lectures on American administrative law. During the 2012/2013 academic year, Diego Corapi, a Professor of comparative law, will be visiting Columbia to hold a series of seminars; also, Ronald Gilson, Professor of Law and Business at Columbia School of Law and the Stanford University Law School, will give a series of lectures at the School of Law of Sapienza.

Coordinators for this program are respectively Prof. Jane Ginsburg for Columbia University and Prof. Laura Moscati for Sapienza.



Columbia Medical School and School of Medicine and Dentistry, Sapienza University of Rome - exchange program for undergraduate students.

Exchange program for first level students (bachelor degree) in the School of Medicine and Dentistry of Sapienza University of Rome and the School of Health Sciences and Medicine at Columbia University. In March 2010, the Dean of the School of Medicine and Dentistry of Sapienza University of Rome, Prof. Adriano Redler and the Dean of the School of Health Sciences and Medicine at Columbia University, Prof. Lee Goldman signed an agreement that offers the possibility for students enrolled in the School of Medicine and Dentistry of Sapienza to carry out a period from 6 to 12 weeks at Columbia University and vice versa. The students are selected by the Faculty of the two universities by predefined criteria. A maximum number of four exchange students has been established by the program per year. Exchange students can attend courses and then carry out research activities for the thesis of first degree, attend a training period when required by the curriculum. The period spent abroad is considered part of their curriculum and it should be approved by the two institutions. At the end of the period, the host University will release a certification stating the activities carried out by the student. The student must pay tuition fees only at the University of origin, yet he/she is be able to use the facilities of the host University. In March 2012, the collaboration between the two universities was strengthened, through the modification of the General Agreement. New collaboration opportunity were added: for example, sharing and exchange of scientific material between the two institutions, the appointment of postdoctoral researcher for periods of 1 to 3 years, and finally the participation in joint research projects and conferences.

Coordinators of the program are, Prof. Adriano Redler of Sapienza and Prof. Lee Goldman of Columbia University.

Advanced Program of Ancient History and Art (APAHA)" - exchange program for graduate students in Archeology.

In 2010, Columbia University and the Italian Academy for Advanced Studies in New York in collaboration with the H2CU Center and Sapienza University of Rome, organized a joint program entitled "Advanced Program of Ancient History and Art (APAHA)". This program involves the carrying out of archaeological excavations at the site located in Stabiae (Naples); in particular the excavation work on Villa San Marco, one of the most luxurious in the area. There is already, and since 1950, an active program of excavations at the Villa with the aim of bringing to light the structures studied during the first excavations of the 18th Century under the Regno Borbonico. APAHA is the first program to make stratigraphic excavations for bringing to light and studying the structures that were in place before the eruption of the volcano Vesuvius in 79 a.d. This may allow the understanding of the architectural history of the house and investigating the interaction between public and private space (as Dr. Terpstra affirms in his "The 2011 Field Season at the Villa San Marco, Stabiae: Preliminary Report on the Excavations" The Journal of Fasti Online). During the summer 2011, the excavation was started and it lasted three weeks (June 20-July 10) in which a group of 8 Columbia University students (participants were from undergraduate to doctoral students) worked together under the supervision of Dr. Terpstra. The second edition of the program in 2012 involved a large presence of students. The program is open to American students from the first level degree to doctorate degree, and in 2012 the program was also open to international students reinforcing its merit. In addition to the excavations' activities at the site of Stabiae, the APAHA program provides preparation classes held at Columbia University, seminars by international experts both in NYC and in Italy, visits to prestigious sites in the area and museums.

Coordinators of the program are Prof. Francesco de Angelis (Art History and Archeology), Prof. Marco Maiuro (History), and coordinated by field director Dr. Taco Terpstra (History Department).



"Joint Academic Programs" at Columbia

Fu Foundation School of Engineering and Applied Science (SEAS) of Columbia University and Department of Civil Engineering at University of Bologna - Dual Degree Program in Civil Engineering.

On July 28th 2009, the Dean of the Faculty of Engineering of the University of Bologna, Prof. Pier Paolo Diotallevi and the Dean of the Columbia SEAS, Prof. Feniosky Peña-Mora signed an agreement for a dual degree program in Civil Engineering, which allows students from both universities to study for one year at the University of Bologna and one year at the Fu Foundation School of Engineering and Applied Science (SEAS) at Columbia University. At the end of the course, students are awarded two degrees: a Master of Science from Columbia University and a Laurea Magistrale from the University of Bologna.

The program establishes an exchange of 10 students per year for each of the two institutions. The idea behind the program is to allow American students to have an academic experience in Europe and Italian students in the US. The initiative has been very successful and, in fact, in addition to the flow of students to the US there

was a particular influx of non-European students who are studying at the Italian University. The program was established thanks to the collaboration between Prof. Raimondo Betti of Columbia University and Prof. Marco Savoia of the University of Bologna coordinators of the program.

Coordinators of the program are Prof. Raimondo Betti for Columbia, Prof. Marco Savoia and Prof. Alberto Montanari for University of Bologna.

Following the positive experience with the University of Bologna, the University of Brescia is working on establishing a Dual Degree program in Civil Engineering and Environmental Engineering.

"Individual Double Degree Programs" at Columbia

In addition to the Dual Degree program, there have been several "individual Double Degree" programs involving students from various Italian Universities (University of Brescia, University of Rome Tor Vergata, Sapienza University of Rome, University of Cassino and Southern Lazio, University of Bologna), participated in different programs of Master of Science:

- Master of Science in Mechanical Engineering;
- Master of Science in Civil Engineering;
- Master of Science in Computer Sciences;
- Master of Science in Construction Engineering-Management;
- Master of Science in Structural Engineering;
- Master of Science in Engineering Management Systems:
- Master of Science in Design Management.



The Dean of the Faculty of Engineering of the University of Bologna, Pier Paolo Diotallevi (bottom left) and the Dean of the Columbia SEAS, Feniosky Peña-Mora (bottom right) with the presence of representative from Columbia University, University of Bologna and the former Italian Consul General Francesco Maria Talo`, during the signature of the agreement for the Dual Degree Program in Civil Engineering in 2009.



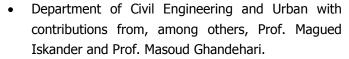
Polytechnic Institute of New York University

Several NYU-Poly professors from different departments have established collaborations which have led to the activation of joint programs involving the recognition of Italian credits, favoring a remarkable mobility of students.

"Periods of Study and Research" at NYU-Poly

During the years many students have worked on a part of their degree thesis and / or their doctoral thesis and specialization at NYU-Poly.

The departments where such periods of research have taken place are:



- Department of Mechanical and Aerospace Engineering with contributions from, among others, Prof. Maurizio Porfiri and Prof. George Vradis.
- Department of Electrical and Computer Engineering , Prof. Nasir Memon.

In addition, other schools of New York University have participated in different activities and exchange programs:

- School of Continuing and Professional Studies;
- Stern School of Business;
- NYU-Langone Medical School, Department of Radiology;
- NYU-Langone Medical School, Department of Ophthalmology;
- NYU-Langone Medical School, Department of Biology.

Several Summer courses were carried out with ample participation of Italian and international students:

 "GIS Terrain Analysis for Hydro-geomorphic applications", organized by Prof. Salvatore Grimaldi, 2008;



Renato Guarini, former President of Sapienza, with the President of NYU-Poly Jerry Hultin, during an official visit in New York.

- "Copula Function: Theory and Practice", organized by Prof. Salvatore Grimaldi, 2009;
- "3rd International Summer School & Conference on Measuring and Managing Corporate Sustainability" organized by Dr. Paolo Taticchi, 2011;
- "4th International Summer School & Conference on Sustainable Corporations Buildings Investments" organized by Dr. Paolo Taticchi, 2012.

As mentioned earlier the collaborations between Faculty of the H2CU Center and NYU-Poly are very strong. This has recently led to the affiliation of three Italian Professors as adjunct professors in the Department of Mechanical and Aerospace Engineering:

- Salvatore Grimaldi, Associate Professor at the University of Tuscia, Viterbo;
- Paolo Cappa, Professor at the Sapienza University of Rome;
- Stefano Ubertini, Associate Professor at the University of Tuscia, Viterbo.

In addition, several H2CU scholar have taught and performed research over the years at NYU-Poly including: Dr. Giacomo Falcucci, Dr. Pietro De Lellis, and Dr. Fabrizio Patane`, Dr. Alessandro Rizzo, Dr. Paolo Taticchi.



"Joint Academic Programs" at NYU-Poly

During the years, numerous "Dual Degree" programs were established with students from several universities connected to the H2CU Center (Sapienza University of Rome, University of Cassino and Southern Lazio, University of Naples "Parthenope", Polytechnic of Bari).

The Polytechnic of Bari and Polytechnic Institute of New York University - Dual Degree in Mechanical Engineering

In 2010, the President of the Polytechnic of Bari, Prof. Nicola Costantino, and the Provost of the Polytechnic Institute of New York University, Prof. Dianne Rekow, signed an agreement for the creation of a Dual Degree program in Mechanical Engineering.

The program includes two curricula:

- Mechanical Engineering "Industrial Automation and Robotics - Dynamic Systems and Controls"
- Mechanical Engineering "Production Engineering -Manufacturing Engineering"

Both curricula are consistent with the requirements of the second level degree in Mechanical Engineering and each curriculum is considered as an individual plan of study for the student. The goal of the program, as outlined in the agreement between the two universities, is to allow students to specialize in international curricula

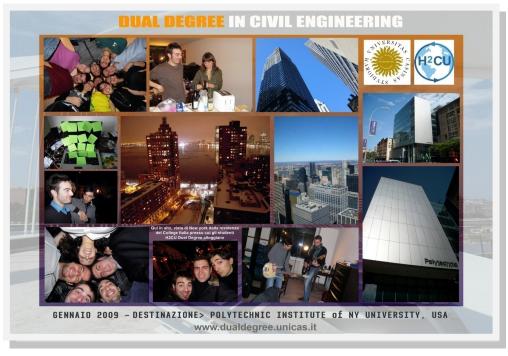
by also strengthening the knowledge of robotics, the study of dynamics and control of physical systems, as well as in manufacturing engineering. Both Italian and international students can take the double degree. Students admitted to the program attend in the first vear the courses offered in English at the Polytechnic of Bari, and during the second year the courses at NYU-Poly. In order for the student to participate in each of the two Dual Degree programs, he/ she must pass some required tests at the Polytechnic of Bari.

At the end of the program, students earn the Laurea Magistrale in Mechanical Engineering from Polytechnic of Bari and the title of Master of Science in Mechanical Engineering with specialization in Dynamical Systems and Control or Manufacturing Engineering from NYU-Poly. Each of the two Dual Degree programs provides for the recognition by NYU-Poly of 27 CFU (9 US Credits) acquired during the first Italian year at the Polytechnic of Bari for the attainment of the Master of Science, which means that each student has a reduction of 30% of the tuition fees. In order for the student to be part of the program, he/she must be admitted to both institutions: Polytechnic of Bari and NYU-Poly. All information relating to admission is available in the Universities websites.

Coordinators of the program are Prof. Gianni Mummolo and Prof. Luigi Mangialardi for Poly- Bari and Prof. Maurizio Porfiri and Prof. Michael Greenstein for NYU-Poly.

<u>University of Cassino and Southern Lazio (UNICALM)</u> and NYU-Poly - Dual Degree in Civil Engineering

In 2008, a Dual Degree Program in Civil Engineering from the University of Cassino and Southern Lazio (UNICALM) and NYU-Poly was established.



Flyer of the Dual Degree Program of NYU-Poly and the University of Cassino and Southern Lazio.



The main objective of the program was to form a class of civil engineers who have the scientific and technological knowledge and a multicultural mind for excelling in their careers. The Dual Degree in Civil Engineering consists of a course of two years and allows students to earn two degrees: Laurea Magistrale in Civil Engineering at UNICALM and a Master of Science in Civil Engineering at NYU-Poly. The student during the first year of the program takes courses at UNICALM and the second year at NYU-Poly; the thesis research can be conducted in any of the institutions and should be defended at the University of Cassino. In order to receive the Dual Degree, the student has to comply with all the requirements established by the agreement signed by the two universities, that is 120 CFU credits in order to achieve the Laurea Magistrale and 30 US credits for the Master of Science. Students of UNICALM can transfer up to 12 US credits (the equivalent of four American courses) from UNICALM with a score of "B" or higher in order to meet the requirements of NYU-Poly. This allows students of the Dual Degree to pay the tuition at NYU-Poly for only 18 instead of the 30 credits required for the Master of Science. The Dual Degree program is open to Italian, American, international students and possibly to European students who participate to the Erasmus program to cover tuition fees for the first year at the UNI-CALM.

Coordinators for the program are Prof. Maura Imbimbo for UNICLAM and Prof. Magued Iskander for NYU-Poly.

Sapienza University of Rome and NYU-Poly - Double Degree ("Laurea Magistrale"/ Master of Science) in Mechanical Engineering: "Automation / Dynamic systems and controls"

In November 2007, the Department of Mechanical Engineering at NYU-Poly approved the Dual Degree program in Mechanical Engineering with specialization: "Automation / Dynamic systems and controls". A complementary agreement was signed by the Provost of NYU-Poly Prof. Dianne Rekow, the NYU-Poly President Jerry Hultin and Sapienza President Luigi Frati together with the Dean of the School of Engineering Prof. Fabrizio Vestroni in 2009. Students enrolled in this course of study attend the first year of the Laurea Magistrale in Mechanical Engineering at Sapienza and the second year at NYU-Poly. The two universities mutually recognize courses taught at the partner University.

Students from Sapienza acquire 63 CFU credits from NYU-Poly while students from NYU-Poly acquire up to 27 CFU credits from Sapienza with the approval of the Area Council. NYU-Poly recognizes 27 CFU (9 US credits) from classes taken at Sapienza. This implies a substantial credit transfer for each student with an approximate 30% reduction in tuition fees. At the end of the course of two years, the students earn the title of Laurea Magistrale in Mechanical Engineering awarded by Sapienza University of Rome and a Master of Science in Mechanical Engineering from the Polytechnic Institute of New York University. The students who achieved the double degree in "Automation / Dynamic systems and controls" have almost all found permanent employment within one month from the date of graduation from primary industries or companies in North America and Europe.

Coordinators of the program are Prof. Paolo Cappa of Sapienza University of Rome, and Prof. Maurizio Porfiri of NYU-Poly.

Sapienza University of Rome and NYU-Poly - Double Degree ("Laurea Magistrale" / Master of Science) in Mechanical Engineerig: "Industrial Production / Manufacturing and Industrial Engineering"

In 2009 the program in Mechanical Engineering was expanded to "Industrial Production / Manufacturing and Industrial Engineering" within the agreement signed by the Provost of NYU-Poly Prof. Diane Rekow, the NYU-Poly President Jerry Hultin and the Sapienza President Luigi Frati together with the Dean of the Faculty of Engineering Prof. Fabrizio Vestroni. Students enrolled in this course of study attend the first year of the Laurea Magistrale in Mechanical Engineering at the Sapienza and the second year at the Polytechnic Institute of New York University. Similarly to the Mechanical Engineering program, the agreement implies a substantial credit transfer for students with an approximate 30% reduction in tuition fees. At the end of the course of two years the student earns the title of Laurea Magistrale in Mechanical Engineering awarded by Sapienza University of Rome and a Master of Science in Manufacturing Engineering from NYU-Poly.



An analysis about the placement of the students who achieved the double title "Industrial Production / Manufacturing and Industrial Engineering" shows that almost all the participating students find permanent employment within one month from the date of graduation from primary industries or companies in North America and Europe.

Coordinators of the program are Prof. Paolo Cappa, Sapienza University of Rome, and Prof. Michael Greenstein, of NYU-Poly.



Paolo Cappa (Sapienza) with the students awarded with a MS in Mechanical Engineering from NYU-Poly in 2012.

<u>University of Naples "Parthenope" and NYU-Poly - Dual Degree Program in "Structural and Geotechnical Engineering"</u>

The University of Naples Parthenope and NYU-Poly established the two-year Dual Degree Program in "Structural and Geotechnical Engineering". At the end of the program, the student earns a Laurea Magistrale from Parthenope and a Master of Science in Civil Engineering at NYU-Poly. The objective of the program is to provide students with advanced tools in design and construction in civil engineering, particularly in structural and geotechnical engineering and material selection.

The student must attend the first year at Parthenope with courses in English, while the second year at NYU-Poly. In order to participate in the program, the student must provide for the paymentof university fees at Parthenope for the first year and at NYU-Poly for the second year.

Coordinator of the program are Prof. Stefano Aversa for Parthenope and Prof. Magued G Iskander for NYU-Poly.

<u>University of Naples "Parthenope" and NYU-Poly - Dual</u> <u>Degree Program in "Telecommunications and Electronics</u>

Engineering", and "Telecommunications Networks"

The University of Naples Parthenope and NYU-Poly have established two joint graduate programs named "Telecommunications and Electronics Engineering" "Telecommunications Networks" whose with two years duration. The student earns a Laurea Magistrale from Parthenope and a Master of Science in Telecommunication Networks or a Master of Science in Electrical Engineering from NYU-Poly. The object of the program is to provide students advanced topics of analysis, design and implementation of telecommunications engineering, with reference to the theoretical, experimental and application aspects of telecommunication systems, image and signal processing and transmission, telecommunication networks, information theory and coding, and many others. The students must attend the first year at Parthenope with courses in English, while the second year

should be spent at NYU-Poly.

Coordinator of the program are Prof. Vito Pascazio for Parthenope and Prof. Yao Wang for NYU-Poly.



"Work in Progress...." at NYU-Poly

A Dual Degree program in Mechanical Engineering from the University of Cassino and Southern Lazio (UNICLAM), Department of Civil Engineering and Mechanics (DICEM), and NYU-Poly is currently being established.

The joint program has a duration of two years and should allow students to achieve the Laurea Magistrale degree at the University of Cassino and Southern Lazio (UNICLAM) and the Master of Science degree from NYU-Poly. The program is open to students of any nationality. Students enrolled in UNICALM would complete the first year in Italy and the second year at NYU-Poly, with the possibility of attending courses, working on research projects or writing of thesis to be developed under the supervision of tutors from the two institutions. The program also provides a path for NYU-Poly students to achieve the joint degree by completing part of their training at UNICLAM.

The program was approved by the Department of Civil Engineering and Mechanics (DICEM) and is pending approval at NYU-Poly and at the Academic Senate of UNI-CALM.

Coordinators of the program are Engineer Fausto Arpino UNICLAM and Prof. Maurizio Porfiri for NYU-Poly.

A new project is on its way and involves the development of joint courses of study between Italy and the US - specifically New York - for engineering and architecture with two educational proposals. The first entails on the Global Practice in Engineering and Architecture with the purpose of forming a new class of professional architects and engineers trained to work in teams in an international context and to experience the modern concrete design and construction process of "doing" in the wake of the lesson by Pier Luigi Nervi. The second focuses on the Architecture / Engineering for Cultural Heritage regarding coordination between engineering and architecture applied to historic sites and monuments to train professionals able to deal with the new process of transformation of the historical and urban sites that characterizes the Italian and the American reality. Both curricula are based on the idea of creating a strong interaction between the American and Italian worlds, with American and Italian students working together in

interdisciplinary design workshops and directed by tutors and Americans and Italians Faculty, supported by experts and consultants in various sectors. The programs are based on the integration between different disciplines in a continuous interaction between Italian culture and an international context. The city of New York is the right place for an academic, professional and cultural exchange. The project is proposed by the University of Cassino and Southern Lazio and the University of Salerno and has as its main partners NLP Project (Nervi Foundation), the H2CU (Honors Center of Italian Universities), the Order of Architects of Rome, ANCE (Italian Association of Builders) - OICE (Italian Association of organizations of engineering, architectural and technical-economic), the EAAE (European Association for Architectural Education), some local agencies, and the Pantheon Institute in Rome. Currently various American universities have expressed their interest in the projects, including NYU-Poly. The goal is to finalize and sign the specific agreements for both programs.

Moreover, the University of Brescia is establishing a Dual Degree program in Civil Engineering with NYU-Poly.

"Individual Double Degree Programs" at NYU-Poly

In addition to the Dual Degree programs, several "Individual Double Degree" programs have been established for students from various Italian Universities (University of Rome Tor Vergata, Sapienza University of Rome, University of Cassino and Southern Lazio, University of Genova, University of Brescia). The following Master of Science degrees have been involved:

- Master of Science in Mechanical Engineering;
- Master of Science in Industrial Engineering;
- Master of Science in Telecommunication Networks;
- Master of Science in Computer Science;
- Master of Science in Civil Engineering;
- Master of Science in Management of Technology.



"Dual PhD Programs in Co-Supervision" at NYU-Poly

A result of the interaction between H2CU Faculty and NYU-Poly Faculty, two PhD programs in co-supervision have been developed.

The Department of Hydraulic Engineering of Sapienza University of Rome began in 2011 a dual-Ph.D. program with NYU-Poly; the student, in this case a graduate of Sapienza and MIT (individual Double Degree H2CU program) is performing her doctoral research by spending alternating periods at Sapienza and NYU-Poly.

The main feature of doctoral programs in co-supervision is that at the end of the intense academic and research experience, students acquire both the Italian PhD and the American PhD. In order to initiate such programs, the student must pass the respective qualifying examinations both in Italy and in the US. The doctoral program in co-supervision has the additional advantage that the titles are related to different disciplines, in fact, the student will acquire the title of PhD in Hydraulic Engineering and PhD in Mechanical Engineering.

The PhD student is followed by 3 advisors: Prof. Salvatore Grimaldi of University of Tuscia, Prof. Francesco Napolitano of Sapienza University of Rome, and Prof. Maurizio Porfiri NYU-Poly.

The Department of Mechanical Engineering of the Polytechnic of Bari and the NYU-Poly began in 2012 a dual

PhD program with an agreement between the two institutions. The current PhD student was one of the first students who has participated in the double degree program between Polytechnic of Bari and NYU-Poly, she then passed the competition for the admission to the PhD program in both institutions, according to the rules established in the respective Universities, and that he/she fulfills credits required to complete the entire degree, ultimately attaining the title of PhD at the Polytechnic of Bari and PhD from NYU-Poly.

This program is of particular importance especially for research themes that involve more disciplines, such as that conducted by a current graduate student, entitled "Advanced modeling of human body dynamics and biomechatronics systems for biomedical applications", led by two advisors Prof. Luigi Mangialardi of the Polytechnic of Bari and Prof. Joo Kim of NYU-Poly. During the three years of study, the PhD student will alternate periods of training and research between the Italian and the American university, in order to obtain the necessary skills on the various subjects under study, by taking full advantage of the experience in different fields of the two universities involved. Along with a wide and intense training, joint supervision also allows the student to develop different aspects of the research in a complementary way in the two Universities, by also using the structures, skills, and external collaborations offered both in Italy and the US.



Maurizio Porfiri and Salvatore Grimaldi discussing their research.



PACE University

PACE University is the main point of reference for the city of New York. The first agreements of Dual Degrees were signed with PACE and it is at PACE that the H2CU office is located supporting all the activities in New York City (Programs, College Italia, Magazine etc.).

"Periods of Study and Research" at PACE

Many students have worked on their thesis degree or attended short courses related to different disciplines at PACE University.

PACE University has hosted several summer schools - short courses, including:

- "1st International Summer School "Piero Lunghi" on Perspectives of Business Performance Management" organized by Dr. Paolo Taticchi.
- During the academic year 2007/2008 students enrolled at Sapienza in several advanced degrees have attended at PACE University the course "Web Design for Non-Profit Organizations" and earned 3 UScredits. Coordinators were Prof. Paolo Cappa from Sapienza University of Rome and Prof. Darren Hayes from PACE University.
- During the academic year 2008/2009 students enrolled at Sapienza in several advanced degrees have attended at PACE University the course "Problem Solving Using LEGO Robotics" and earned 3 US-credits. Coordinators were Prof. Paolo Cappa from Sapienza University of Rome and Prof. Darren Hayes from PACE University.
- During the academic year 2009/10, students enrolled in several advanced degrees at Sapienza have attended the course "Engineering Designs in 3D World" and earned 3 US-credits. Coordinators were Prof. Paolo Cappa from Sapienza University of Rome

"Short Academic Programs" at PACE

"Rome: The Eternal City"

PACE University and the H2CU Center have established in 2005 a major initiative called "Rome Eternal City". This course is intended for undergraduate students of PACE University. The course lasts 4 weeks (May-June) and today it is at its 9th edition. "Rome: The Eternal City" is a multidisciplinary course that gives students the opportunity to study, visit and live the Italian culture and in particular the factors that led Rome to be the reference city in the world since ancient times. During the course students take seminars in history, art, literature, architecture, history of religion, law, urban planning and the

environment with particular attention to the relationship between the city and its river, accompanied by excursions and tours of the most significant parts of the city. Teaching is carried out jointly by PACE Faculty and Italian Faculty, selected by the H2CU Center. Since 2005 more than 25 professors have contributed to the program, with seminars and lectures. PACE University recognizes 6 US credits to the students who attend this course successfully. The initiative has achieved significant success among American participants, becoming the most popular course abroad amoung students of PACE.



Rome Eternal City Program: students in Rome.

and Prof. Darren Hayes from PACE University.



Since the fourth edition (2008) PACE and H2CU Center, have agreed to make a selection of the participants, rewarding candidates with the best academic curricula, considering a reasonable number of 22-24 students per course. Approximately 200 students attended the course from 2005 to 2012.



David Caputo, former president of PACE University and Lucio Ubertini, Director of H2CU Center during the closing ceremony of the Rome Eternal City Program.

Sapienza University of Rome and PACE University - exchange students program in "Biomedical Engineering"

Recently, a new program has been established by the Sapienza Council in Biomedical Engineering and from September 2013 it will allow students to conduct their first semester of the second year at PACE University. Both Universities have agreed to transfer the exams passed by the students at the respective institutions. At the end of the semester the student will receive an Advanced Certificate in "Software development and engineering" at PACE University. Milestones of the bureaucratic administrative process were:

- 2011-2012: sharing of the training project between the two project managers;
- July 2012: approval of the project by the Sapienza Board in Biomedical Engineering;
- October 2012: publication of the call for the selection of three students.

Coordinators of the program are Prof. Paolo Cappa of Sapienza University of Rome and Prof. Darren Hayes for PACE University.

"Joint Academic Programs" at PACE

<u>University of Tuscia and PACE University - Dual Degree</u>
<u>Program Graduate "ESLUA - Environmental Science for</u>
<u>Large Urban Areas"</u>

In 2007 the President of PACE University David A. Caputo and the President of University of Tuscia, Marco Mancini, together with the Director of the H2CU Center Prof. Lucio Ubertini signed the agreement of cooperation for the establishment of the first Dual Degree program sponsored by the H2CU Center. The curriculum proposed in the Dual Degree Program provides training for careers in geosciences, health hazard communication, environmental analysis, monitoring, ecological assessment, waste management and reduction, geographical information and surveillance systems, and environmental regulation, including related areas of administration. The curriculum is structured so that students study environmental issues from scientific, ethical, public policy, and legal perspectives. The Dual Degree allows students to take classes at PACE University during the second year of the program for a total of 21 US credits. 9 to 12 US credits are transferred from Tuscia to PACE of courses of the first year. The program is conducted entirely in English and therefore American and international students can participate. Particular attention has been placed on internships during the second year in New York. Students who have participated in the program have benefited from the Career Offices of PACE who facilitated contacts with prestigious institutions in the sector, allowing internships at the National Park Service, Office of the United Nations FAO, UN Environmental Protection Agency, UNESCO Office at the United Nations, New York Restoration Project.

Coordinators for the program are Prof. Salvatore Grimaldi for University of Tuscia, and Prof. Richard Schlesinger for PACE University.

The Dual Degree with PACE is the first program of its kind organized by the H2CU Center; it has been used as a case study to evaluate and make potential improvements in the teaching and administrative structures of the program. Two other joint programs are being established with the possibility of adding more partners.



The first program is being developed in collaboration with the University of Molise (Prof. Marco Marchetti) and the program calls for giving the students the possibility to attend courses through video-conferencing in classrooms located in Italy and US. The administrative headquarters of the program is expected to move from time to time between the two Italian centers. Also, other Italian Universities can participate in the program. The second program is being developed with CAH Almere in the Netherlands (with chief Dr. T. Menger) with the goal to compete in the project ATLANTIS, European Call for funding of joint academic projects overseas. In this case, the student, also supported by the Erasmus circuit, should spend the second semester of the first year at the University in the Netherlands. All the bureaucratic documents and agreements are in place. Unfortunately the ATLANTIS program has not started yet due to a luck of funds.

"Individual Double Degrees Programs" at PACE

Several "Individual Double Degrees" have been established thanks to the help of Dr. Victor Goldsmith. Many students from various Italian Universities have participated (University of Rome Tor Vergata, Sapienza University of Rome and University of Tuscia) in the following degrees:

- Master of Science in Financial Management;
- Master of Science in Information Systems;
- Master of Science in Environmental Science;
- Master of Science in Publishing;
- Master of Science in Investment Management, Finance & Economics;
- Master of Law (LLM) in Comparative Legal Studies.

"Work in Progress..." at PACE

Currently under development is a major Dual Degree program in collaboration with the University of Brescia and the University of Cassino and Southern Lazio. The University of Brescia has started in the last year contacts with the Lubin School of Business at PACE University to create a graduate dual degree program in Business. The initiative which is under study has the goal to enable students to study in Italy the first year and in New York the second year. At the end of the program students should acquired the Laurea Magistrale from Brescia

and the Master of Science degree from PACE. Currently the institutions are considering the possibility of having a transfer credit and a reduction of tuition costs. Students are expected to enter the Master's program in the US with significant waiver of courses by PACE University. As soon as the terms and conditions will be defined, the H2CU Center will write the agreement and allow stu-



Lucio Ubertini, Director of H2CU Center with Christine Shakespeare (PACE University), Luigi Frati, Rector of Sapienza, and Antonello Biagini, vice-provost of Sapienza.

dents from other Italian Universities to participate in the program. This agreement is particularly important because PACE University is the only one to offer a Master of Science in economics that normally is offered in MBA programs (Master in Business Administration) which are known to be very expensive.

The Business program at American Universities, in particular PACE University, has over the years acquired a lot of interest from Italian Universities. The University of Cassino and Southern Lazio has recently established contacts with PACE University in particular with the Lubin School of Business to undertake a common course of study. In 2010, the Director of the H2CU Center, Prof. Lucio Ubertini, signed a partnership agreement with PACE University, that allows students of the School of Economics of UNICALM to study and prepare their Laurea Magistrale thesis in New York by conducting research at PACE University.



of Understanding Between PACE University and Università degli Studi della Tuscia

2/

Memorandum of Understanding Between Pace University and Università degli Studi della Tuscia on the Development of a Joint Second-Level Italian Laurea and a Master Degree from Pace University

Whereas, the participating parties believe that international understanding and educational opportunities for their students and would be enhanced by international, academic and scientific cooperation and an agreement. This agreement shall be identified as the parent document of any specific Program Agreement between the parties.

This Parent Agreement establishes guidelines for a program of studies at Pace University that will accept students from Italian Universities in indicated fields of studies.

This program is in accordance to collaborate in teaching in fields of mutual interest, thus encouraging the exchange of different experiences and points of view between the Universities.

The undersigned express their desire to develop a mechanism through which selected Italian students could obtain a joint second-level Laurea degree from Italy and a Masters degree from Pace University.



Poster of the Dual Degree Program between University of Tuscia and PACE University in "Environmental Science for Large Urban Areas"

The courses to be offered will be mutually decided in the future according to the interests of each side. The possibility, to have the Italian students earn credits counted towards degrees at both the Italian and U.S. Universities, culminating in two masters degrees, is to be negotiated separately by each university.

Pace University and participating universities agree to appoint individuals who will manage and supervise program development. The parties will cover any local administrative costs and faculty salaries. The parties agree to cooperate, in good will, in the development and implementation of supporting agreements.

Viterbo, New York, January 9th, 2007

PACE University The President David A. Caputo Università degli Studi della Tuscia

Il Rettore" Marco Mancini

Memorandum of Understanding between University of Tuscia and PACE University for the "Dual Degree in Environmental Science for Large Urban Areas" signed by the President of Tuscia Marco Mancini, and the President of PACE, David. A Caputo.



Section 6: H2CU in Boston

MIT - Massachusetts Institute of Technology

As previously described, the H2CU project originates from a ten-year agreement between the CNR—Italian National Research Council and MIT in Boston.

The cooperation between CNR and MIT in the field of the prevention of hydrologic and geologic hazards has its roots in the G.N.D.C.I. (Gruppo Nazionale per la Difesa dalle Catastrofi Idrogeologiche). Initiated in 1987 through a specific agreement between MIT and the University of Firenze, such project was focused on the experimentation of advanced technologies and nonstructural criteria for the safeguard of the city from the flooding risk. The success of this initial cooperation generated an increasing number of scientific contacts and exchanges, so that a "Memorandum of Understanding for the Cooperation in Climate Changes and Hydrogeological Disasters" was jointly signed by MIT and CNR in 1994. The Memorandum had two main goals: the further formalization of the educational and research activities jointly developed over the previous six years and the declaration of common interest and modalities in the future pursuing of specific objectives.

H2CU student during the Commencement at MIT.

A primary objective was identified in the study of the potential impact of climate change on landslides, floods and droughts, with particular emphasis on: a) non-linear interactions and feedback among land, ocean and atmosphere bodies and their role in the onset of different climatic states in the presence of human-induced disturbances; b) the prediction of floods and droughts in short, medium and long terms; c) development of remote sensing methodologies for measuring hydrogeologic variables like soil moisture and precipitation; d) landslide processes and conditions, including slope stability in urbanized regions mapping; e) paleogeology in monitoring late quaternary environmental changes.

The operational framework for the organizational and financial support of the cooperation took final form in the Agreement for the Study of Climatic Change and Hydrogeologic Risks in the Mediterranean Area, initiated in 1996 and renewed in 2000 for another three-year period.

Below are outlined the main streams of activity:

a) The preparation of specific research programs, including the identification, for each program, of an MIT coordinator and a number of Italian CNR and University researchers to be involved in it; b) the provision of the necessary support and tutorial structures to allow extended (six months) visits at MIT of the Italian researchers; c) the organization of intensive courses, to be held in Italy in the summer period, on advanced topics related to the Memorandum research themes; d) the period-

ic meeting of the Scientific Committee, initially composed by Prof. Rafael Bras, head of the Department of Civil and Environmental Engineering, Prof. Daniele Veneziano and Prof. Kelin Whipple from MIT, Prof. Lucio Ubertini, president of G.N.D.C.I, Marino Sorriso -Valvo and Bruno D'Argenio from the CNR. The initial three years of activity under the agreement umbrella allowed the cooperative achievement of research results of high scientific level in a variety of themes of common interest. The agreement extension started in 1999 and it was a natural outcome from the manifested mutual



satisfaction. Crucial processes in making the collaboration successful have been the continuous interaction between the two scientific communities, much helped by the numerous summer courses held in Italy by MIT Faculty and also ad hoc scientific gatherings, both in Italy and at MIT. In particular, the attendance of the summer courses by many young Italian researchers, from both CNR and University institutions, made possible to establish preliminary but efficient contacts with MIT Faculty and to focus on the specific research themes which have been successfully carried by the researchers during their following visits to MIT. Several direct scientific collaborations among MIT and Italian senior researchers were also re-organized and given further impulse in such a framework.

"Italian Students and Faculty" at MIT

The first exchange of Faculty and students in 1994 allowed for a better understanding of the challenges associated with international programs and offered important insight on how to address them. For example these difficulties were partially solved thanks to a collaboration agreement with the Dante Alighieri Society of Massachusetts that have offered logistical support to Faculty and the staff visiting Boston. With the desire to extend this agreement and prestigious co-operation, the promoters of that initiative were the supporters of the birth of the H2CU Center.

"Periods of Study and Research" at MIT

During the years many students have worked on their degree thesis and / or their doctoral thesis at MIT.

The departments involved are the following:

- Department of Aeronautics and Astronautics
- Department of Civil and Environmental Engineering
- Department of Mechanical Engineering

Also, a series of prestigious summer schools were organized:

-Prato, May 1996 "Self-similarity in mathematics, rainfall and thopography," Prof. Daniele Veneziano Dept. of Civil and Environmental Eng. - M.I.T.

- -Perugia, June 1996 "Debris flow hazards: initiation, rheology and deposition on fans," Prof. Kelin X. Whipple, Department of Earth, Atmospheric and Planetary Sciences M.I.T.
- -Colombella (PG), July 1997 "Landslides: engineering geology and risk assessment," Prof. Herbert Einstein Dept. of Civil and Environmental Eng. M.I.T.
- -Colombella (PG), July 1997 "Remote sensing monitoring of hydrometereological processes," Prof. Dara Entekhabi and John Galantowicz, Dept. of Civil and Environmental Eng. M.I.T.
- -Perugia, June 1998 "Models and observations: data assimilation in hydrological and geological sciences," Prof. Dara Entekhabi (MIT) and Prof. Fabio Castelli (Univ. Perugia)
- -Perugia, June 1998 "Vadose zone hydrogeology: issues at the boundary between the surface-water and groundwater," Prof. Guido Salvucci, Boston University
- -Perugia, June 1998 "Process-response models of river basin evolution," Prof. Gregory Tucker, Dept. of Civil and Environmental Eng. M.I.T.
- -Prato, June 1999 "Hydrologic predictability and climate influences," Dara Entekhabi, Dept. of Civil and Environmental Eng. M.I.T.
- -Prato, June 1999 "Subsurface flow and transport," Prof. Bruce Jacobs and Prof. Charles Harvey, Dept. of Civil and Environmental Eng. M.I.T.
- -Perugia, July 2000 "Hydrology topical seminars," Prof. Rafael L. Bras, Dept. of Civil and Environmental Eng. M.I.T.
- -Perugia, July 2000 "Ecohydrology," Prof. Ignacio Rodriguez-Iturbe, Princeton University
- -Perugia, July 2001 "Hydrologic assimilation with remotely sensed measurements," Prof. Dara Entekhabi, Prof. Dennis McLaughlin, Dept. of Civil and Environmental Eng. - M.I.T.
- -Perugia, June 2002 "The steady circulation of the oceans," Prof. Paola Malanotte Rizzoli, Dept. of Earth, Atmospheric, and Planetary Sciences M.I.T.
- -Assisi, February 2003 "Radar hydrometeorology," Prof. Earle Williams, Dept. of Earth, Atmospheric, and Planetary Sciences M.I.T.



-Roma, July 2004 "Distributed Hydrologic Modelling using Geospatial Data and Tools," Prof. Enrique Vivoni, Arizona State University;

-Viterbo, July 2006 "Landscape form and processes: models and applications in watershed analysis,"

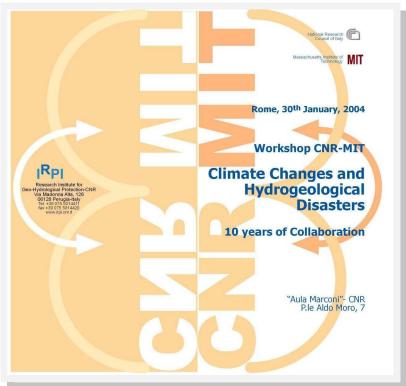
Prof. Erkan Instanbullouglu, University of Washington.

"Joint Academic Programs" at MIT

Several "Individual Double Degree" programs took place and they involved the following departments or programs of Master of Science:

- Department of Mechanical Engineering
 Master of Engineering in Manufacturing;
- Department of Civil and Environmental Engineering – Master of Engineering in Track-Geothecnology;
- Department of Civil and Environmental
 Engineering Master of Engineering Track Environmental and Water Quality Engineering.

The nature of the collaborations has been more oriented toward research also considering the nature of the American system. A tangible result it should be noted that this interaction has resulted in more than 150 publications in prestigious international journals (for a partial list, see the book "CNR -MIT: 10 years of collaboration" available at www.h2cu.it).



Workshop CNR—MIT to celebrate the 10th years of collaboration, Rome January 2004.



Section 7: H2CU in Miami and Atlanta

The collaborations and the joint academic programs are not limited to Boston and New York City but they are also expanding to offer Italian students the diversified opportunities in other prestigious institutions in the US.

Recently, cooperation agreements have been established with both Florida International University and Georgia Institute of Technology.

It is now possible for Italian students, interested in these Universities, to create individual pathways of exchange or double degree for each discipline. In the immediate future, general programs at the institutional level will also be established.

Georgia Institute of Technology

The 11th of November 2011, a meeting was attended by Prof. Lucio Ubertini, H2CU Director, Prof. Salvatore Grimaldi, Secretary of the H2CU Executive Committee, Prof. Rafel Bras, GaTech Provost and Prof. Steve McLaughlin, GaTech Vice-Provost for International Relations, Prof. Larry Jacobs, GaTech Dean of the Engineering School, Prof. Yves Berthelot, President of GaTech Lorraine, and Prof. Cheng Zhu, Program Manager at GaTech / Emory.

The objective of the meeting was to present the activities of the H2CU Center and then identify opportunities for joint initiatives, but also to deepen the specific agreements for two programs offered by Georgia Tech and precisely those that refer to the Georgia Tech Lorraine program and Georgia Tech Emory program.

<u>Georgia Tech Lorraine program</u>: GaTech has its own campus in Europe at Metz, France from which offers graduate programs in engineering (Mechanical, Electrical, Computer Science).

The initiative which is under study, is to enable the Italian student to follow the first year of the Laurea Magistrale in Italy, the first semester of the second year at the French campus and the second semester at the campus in Atlanta. At the end of the project, students

should acquire two degrees: Laurea Magistrale and Master of Science. Currently the institutions are considering the possibility of having a transfer credit and a reduction of tuition costs. To date, the School of Industrial and Civil Engineering of Sapienza University of Rome overseas the administrative and bureaucratic process and it has already identified the common learning paths and their equivalences to earn the Laurea Magistrale / Master of Science in Mechanical Engineering. The signing of the cooperation will take place in 2013.

Coordinators of the program are Prof. Paolo Cappa, Sapienza University of Rome, Prof. Bertrand Boussert, Georgia Tech - Lorraine and Prof. Yves Berthelot, Georgia Tech - Atlanta.

Georgia Tech Emory program: The Wallace H. Coulter Department of Biomedical Engineering is a joint effort between The Georgia Institute of Technology and Emory University. The department is a unique partnership between a public and a private institution. The vision is to provide superb education and research in biomedical engineering with an emphasis on applications to human health. The department offers several graduate level programs (also referred to as majors). Graduates of this program receive degrees jointly conferred by Georgia Tech and Emory. A second joint program, added in 2009, offers a PhD degree conferred by Georgia Tech, Emory, and Peking University (China). In this context, the Georgia Tech Department of Biomedical Engineering and the H2CU Center will identify a common academic or research path for Italian and US students. In principle, the Italian and US Doctor of Medicine are invited to take part to the PhD programs offered by both Universities. Advisors, selected in both Universities, will tutor the students in their post-graduate program.

The aim is to provide to the students the following opportunities depending on their specific academic background and their aspiration:

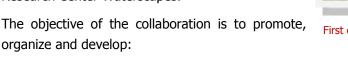
- research period abroad to be included in the their native academic or research program;
- obtaining the PhD degree in one or both Universities.

Specific executive protocols will provide details on transfer credits procedure, salary regulation, requirements and advisor selection.



Florida International University

In January 2012, a prestigious scientific workshop at FIU's Biscayne Bay Campus was attended by numerous afferents to the H2CU Center. This workshop is the fifth in a series organized under the aegis of the CNR and Princeton University. Miami as a location was decided in 2011 to foster contacts between FIU Faculty and various Italian Universities and to celebrate the signing of the first agreement between FIU and the H2CU Center. Scientific director of the program for FIU is Prof. Fernando Miralles - Wilhelm Department of Earth and Environment and Director of the NASA University Research Center Waterscapes.





- Participation in research programs;
- Sharing common graduate and post-graduate programs;
- Developing dual degree graduate programs.



First edition of CNR - Princeton Workshop, Princeton USA 2001.

GENERAL AGREEMENT TO PROMOTE CULTURAL AND SCIENTIFIC COOPERATION BETWEEN THE UNIVERSITY OF ROME "LA SAPIENZA" (ITALY) AND FLORIDA INTERNATIONAL UNIVERSITY (USA)

In recognition of their common interest in promoting research and education, the University of Rome "La Sapienza" (Italy) and Florida International University (USA) enter into this to establish a framework for promoting academic exchanges and scholarly collaboration.

Art. 1: Scientific and educational cooperation shall be undertaken in areas of mutual interest. Such cooperation will be carried out on the basis of equal and mutual advantage.

Art. 2: The cooperation may be implemented in the following ways:

- a) Exchange of visits by scholars;
- b) Participation in research programs;
- c) Sharing common graduate and post-graduate programs;
- d) Developing dual degree graduate programs.

Agreement of collaboration signed in January 2012, between Luigi Frati, President of Sapienza University of Rome and Douglas Wartzok, Provost of FIU-Florida International University.



Acknowledgments

The H2CU Center would like to thank US colleagues and friends for their precious and continuous support during the years.

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H2CU Center at a Glance

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Secretary of the H2CU Executive Committee
Salvatore Grimaldi

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H2CU Coordinator in NY

Maria Grillo

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Magazine – H2CUmag & H2CUNewletters

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